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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for calibrating a driver in [[an]] a dual actuator disk drive, comprising:

determining a measured capacitance associated with at least one piezoelectric element prior to positioning the piezoelectric element over a disk surface including the

5 steps of:

driving said at least one piezoelectric element to a predetermined starting voltage;

supplying a predetermined current to said at least one piezoelectric element for a predetermined time period;

10 measuring a second voltage associated with said at least one piezoelectric element after said supplying step; and

calculating said measured capacitance based on said measuring step, wherein said calculating step is performed based on the following equation:

$$C = I * (T / (V_{m2} - V_{m1}))$$

15 where C is the measured capacitance, I is the current supplied to said at least one piezoelectric element during said supplying step, T is the predetermined time period; V_{m2} is the second voltage, and V_{m1} is the starting voltage; and

adjusting said driver based on said determining step.

Claim 2 (original): A method, as claimed in claim 1, further comprising:

secondly determining a second measured capacitance associated with said at least one piezoelectric element after a predetermined time period following said adjusting step; and

5 secondly adjusting said driver based on said determining step.

Claim 3 (cancelled).

Claim 4 (cancelled).

Claim ⁶ (currently amended): A method, ~~as claimed in claim 1, wherein said~~
~~determining step comprises~~ for calibrating a driver in a dual actuator disk drive,
comprising:

determining a measured capacitance associated with at least one piezoelectric
5 element prior to positioning the piezoelectric element over a disk surface including the
steps of:

driving said at least one piezoelectric element is a predetermined starting
voltage;

supplying a predetermined current to said actuator element;

10 starting a timer;

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monitoring a voltage associated with said at least one piezoelectric
element;

stopping said timer to get an elapsed time when said voltage reaches a
predetermined voltage level in said monitoring step; and

15 calculating said measured capacitance based on said elapsed time, wherein
said calculating step is performed based on the following equation:

$$C = I * (T / (V_{m2} - V_{m1}))$$

where C is the measured capacitance, I is the current supplied to said at least one
piezoelectric element during said supply step, T is the elapsed time, V_{m2} is the
20 predetermined voltage level, and V_{m1} is the starting voltage; and

adjusting said driver based on said determining step.

[Claim 6 (cancelled).

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Claim ~~7~~ (original): A method, as claimed in claim 1, wherein said adjusting step
includes:

determining a difference between said measured capacitance and an expected
capacitance; and

5 adjusting a gain associated with said driver based on said determining step.

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Claim ~~8~~ (original): A method, as claimed in claim 1, wherein said driver is a
voltage control driver.

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Claim ~~9~~ (original): A method, as claimed in claim 1, wherein said driver is a charge control driver.

[Claims 10-18 (cancelled).

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Claim ~~19~~ (currently amended): A method for determining a number of piezoelectric elements present in a dual actuator hard disk drive, comprising:

determining a total capacitance associated with at least one piezoelectric element including the steps of:

5 driving said at least one piezoelectric element is a predetermined starting voltage;

supplying a predetermined current to said at least one piezoelectric element for a predetermined time period;

measuring a second voltage associated with said at least one piezoelectric element after said supplying step; and

calculating said total capacitance based on said measuring step, wherein said calculating step is performed based on the following equation:

$$C = I * (T / (V_{m2} - V_{m1}))$$

15 where C is the total capacitance, I is the current supplied to said at least one piezoelectric element during said supplying step, T is the predetermined time period; V_{m2} is the second voltage, and V_{m1} is the starting voltage;

ascertaining a number of piezoelectric elements present in said disk drive based on said determining step.

Claim 20 (cancelled).

Claim 21 (cancelled).

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Claim ~~22~~ (currently amended): A method, ~~as claimed in claim 21~~, for

determining a number of piezoelectric elements present in a dual actuator hard disk drive,

comprising:

determining a total capacitance associated with at least one piezoelectric element

5 ascertaining a number of piezoelectric elements present in said disk drive based

on said determining step, wherein said ascertaining step comprises:

dividing said total capacitance by an expected capacitance and rounding to the
closest natural number.

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Claim ~~23~~ (currently amended): A method, as claimed in claim ⁸[[19]] ~~22~~, wherein

said expected capacitance is approximately a capacitance associated with a single
piezoelectric element.

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